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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 09/640,514  | 08/17/2000  | Frank J. DiSanto     | Copy-51             | 6300             |
| 45722   | 7590        | 04/27/2006           | EXAMINER            |                  |
| PLEVY & HOWARD, P.C.<br>P.O. BOX 226<br>FORT WASHINGTON, PA 19034 |             |                      | EISEN, ALEXANDER    |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 2629                |                  |

DATE MAILED: 04/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                      |                                       |  |
|------------------------------|--------------------------------------|---------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>09/640,514 | <b>Applicant(s)</b><br>DISANTO ET AL. |  |
|                              | <b>Examiner</b><br>Alexander Eisen   | <b>Art Unit</b><br>2629               |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 October 2002.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11,14-17,35 and 36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11,14-17,35 and 36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

1. The following is a copy of outstanding final official action, which was mailed out to the Applicant on 02 January 2003 in response to the amendment filed on 29 October 2002 and apparently had not reached the correspondent due to non-entry of the Change of Address Request, filed by the Applicant's attorney on 17 January 2002. The address change has been entered, however, later - on the second request of the Applicant of 19 May 2003.

#### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-8, 10-11, 14-17 and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Ota, US Patent No. 3,668,106.

As to claims 1, 15, 16, Ota discloses a multi-color electrophoretic image display comprising a first electrode Y (FIGS. 7 and 12a,b,c, column 6, lines 1-38) defining a plurality of cells at the intersection of electrode Y with a plurality of electrodes X, a second transparent electrode X, separated from first electrode by space, an electrophoretic fluid (suspension layer 22) disposed between the first and second electrodes, the electrophoretic includes a plurality of particles dispersed in the cells of the first electrode being movable to and from adjacent positions on the transparent and reflect light entering the display thereby forming an image, which can be more than one color. Ota also teaches spacers 38 and 40 for retaining a electrophoretic fluid 22.

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As can be seen in FIGS. 8 and 12b, the spacer 38 is slightly taller than the cells enclosing electrophoretic material 22.

As to claim 2, Ota teaches the transparent second electrode X includes rows of electrically conductive transparent electrode lines (col.6, lines 11-14 and col. 10, lines 37-44).

As to claims 3 and 4, cells define electrically conductive electrode pads that are elongated (strips X and Y).

As to claim 5, Ota teaches that cells could be of variety of different shapes including a square or rectangular.

As to claims 6, 7, 10, 11, 17 and 36, Ota teaches that a colored display can be achieved by using multicolor filters formed on transparent upper housing wall adjacent to second electrode, including red, blue and green colors, or, as an alternative, in order to produce even better color images by using different colors of suspensions (col. 10, lines 52-62).

As to claim 8, Ota teaches light electrophoretic material (col. 3, lines 63-66).

As to claim 14, each of the cells forms a picture element or pixel (col. 10, lines 45-51).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ota in view of Check III et al., US 5,467,217.

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Ota discloses a multi-color electrophoretic image display comprising a first electrode Y defining a plurality of cells at the intersection of electrode Y with a plurality of electrodes X, a second transparent electrode X, separated from first electrode by space, an electrophoretic fluid disposed between the first and second electrodes, the electrophoretic includes a plurality of particles dispersed in the cells of the first electrode being movable to and from adjacent positions on the transparent and reflect light entering the display thereby forming an image, which can be more than one color.

Check III et al. teaches that the particles coated with a solid polymeric can be used in an electrophoretic display (col. 1, lines 20-52, col. 4, lines 5-18 and col.8, lines 10-25).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the particles in the electrophoretic display coated with a polymer as taught by Check III et al., because polymeric stabilizers improve the display by reducing the tendency of particles to agglomerate and keep them dispersed (col. 1, lines 63-67).

6. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ota in view of Iwanaga et al., ("Iwanaga"), US Patent No. 5,739,946.

Ota discloses a multi-color electrophoretic image display comprising a first electrode Y defining a plurality of cells at the intersection of electrode Y with a plurality of electrodes X, a second transparent electrode X, separated from first electrode by space, an electrophoretic fluid disposed between the first and second electrodes, the electrophoretic includes a plurality of particles dispersed in the cells of the first electrode being movable to and from adjacent positions on the transparent and reflect light entering the display thereby forming an image, which can be more than one color.

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Ota does not disclose, however, that the pixels of different color can be disposed in different planes.

Iwanaga teaches a display device, wherein three layers of cells are used for realizing the color display (see FIG. 28, column 20, lines 25-64).

At the time of the invention it would have been obvious to one of ordinary skill in the art to use the alternative structure for the color display device of Ota as taught by Iwanaga, because it allow to display different colors by a single pixel and therefore to obtain a good quality of a color display (col. 20, lines 55-59).

#### ***Response to Arguments***

7. Applicant's arguments filed 29 October 2002 have been fully considered but they are not persuasive. Applicant argues that Ota does not teach a spacer slightly taller than a cell, which leaves a gap in described invention for permitting the electrophoretic fluid to flow into and fill up each cell. While Ota does not teach the gap, it clearly shows that the spacer 38 in FIG. 8c and FIG. 12b taller than cell itself, wherein the cell boundary is defined by electrophoretic material 22. As to the gap, the independent claim 1 does not limit the invention to this feature.

Also, the boundaries of the cell of the invention are not clearly defined, and one can judge by the position of electrophoretic particles 16 in FIG. 4 that the cell itself is just as tall as the spacer 13. Therefore the rejection is proper and is maintained.

#### ***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Eisen whose telephone number is (571) 272-7687. The examiner can normally be reached on M-F (9:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard A. Hjerpe can be reached on (571) 272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

20 April 2006



Alexander Eisen  
Primary Examiner  
Art Unit 2629